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The Solitary Superconductivity in Dirty F 1 F 2 S Trilayer with Arbitrary Interfaces

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Abstract

© 2016, Springer Science+Business Media New York.We theoretically study the proximity effect in ferromagnet–superconductor trilayer in the F1F2S design. Electron–electron pairing interaction in F layers is taken into account. The boundary value problem is considered in the frame of Usadel equations. The conditions of the solitary superconductivity appearance in F1F2S system are theoretically investigated taking into account of arbitrary transparencies of interfaces. The experimental observation of this effect and its spin-valve application are discussed.

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Keywords

Ferromagnet, Interface, Layered structures, Proximity effect, Spin valve, Superconductivity